

# Topics for Exam IV for Chem1A

## Chapter 10

- Intermolecular forces (& their affects)
  - Ion-ion
  - Ion-dipole
  - Dipole-dipole
  - Hydrogen bonding
  - Dipole-induced
  - Induced-induced
- Vapor pressure
- Enthalpy of vaporization
- Evaporation & condensation
- Critical points
- Types of solids
- Basic cubic unit cells
  - Atomic radius calculations
  - Molecular formula
- Use of phase diagrams
  - Triple point
  - “Normal” points

## Chapter 11

- Concentration units and conversion
  - Molality
  - Mole fraction
  - Weight %
  - Molarity
- Henry's Law
  - $S_g = k_H \cdot P_g$
- Raoult's Law
  - $P_{\text{solv}} = X_{\text{solv}} \cdot P_{\text{solv}}^{\circ}$
  - $\Delta P_{\text{solv}} = -X_{\text{solute}} \cdot P_{\text{solv}}^{\circ}$
- $\Delta T = k \cdot m \cdot i$
- Use of van't Hoff factor
- Osmotic pressure
  - $\Pi = cRT$

## Chapter 22

- Organic nomenclature